

### CASE STUDY - FOUNDATION CRACK INJECTION

Commercial - Large Regina School



## THE PROBLEM

Water seepage from multiple large and worsening cracks in the foundation walls plagued a large school within the Regina Public School System. Moisture infiltrated various areas, notably the library. Traditional repair methods were not feasible because interior rooms were finished and classrooms occupied. The Regina Public Schools maintenance team sought a permanent, minimally invasive solution to halt water intrusion and safeguard the lower level.





## THE SOLUTION

Eco Seal suggested using a one-part polyurethane sealant to effectively seal cracks throughout the structure. The sealant's thin consistency enabled thorough penetration into the cracks, creating a waterproof barrier. The application involved a detailed six-step injection procedure.

1. **Drilling:** Small-diameter holes were strategically drilled along the crack to intercept it and allow injection points.
2. **Injection Port Installation & Water Testing:** Ports were installed at drilled points and tested with water and cleansed with muriatic acid to confirm crack interception and flow paths.
3. **Injector Ports & Sealing:** The surface of the crack was sealed with hydraulic cement to contain the injection.
4. **Mixing & Testing:** The polyurethane sealant components were mixed, and small test batches were used to confirm reaction times and ensure optimal formation.
5. **Injection & Solidification:** Using a pump, the polyurethane sealant was injected, filling the entire crack from bottom to top, penetrating tight spaces, and forming a flexible, water-tight seal.
6. **Port Removal & Patching:** Once the sealant was fully cured, the ports were removed, and the drilled holes were patched for a clean, finished appearance.



## THE SUMMARY

The application of Eco polyurethane sealant effectively stopped water seepage and infiltration through multiple foundation cracks, returning the lower level to a dry state. This durable, economical solution was completed from the exterior, causing no classroom disruptions for the School. The sealant's low viscosity allowed it to penetrate cracks above and below grade, creating a lasting waterproof barrier. Its flexible nature also accommodates minor foundation movement, unlike rigid repairs, thus ensuring an enduring seal. The injection process, facilitated by a pump, was both efficient and precise, offering a non-invasive and permanent fix that prevents further water damage.

